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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/711,159	11/12/2000	Todd Sutton	51010.P019	6774

23419 7590 06/03/2004

COOLEY GODWARD, LLP
3000 EL CAMINO REAL
5 PALO ALTO SQUARE
PALO ALTO, CA 94306

EXAMINER	
CRAVER, CHARLES R	

ART UNIT	PAPER NUMBER
2682	11

DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/711,159	SUTTON ET AL.	
	Examiner	Art Unit	
	Charles R Craver	2682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *5-9 and 13-17* is/are allowed.

6)☒ Claim(s) *1-4,10-12 and 18-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 November 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 11, 12 and 19-25 are rejected under 35 U.S.C. 102(b) as being anticipated by McGeehan et al (WO96/15596).

Claim 1: McGeehan discloses a method for receiving an indicator of a signal strength indicating a power level of a coupled signal from a local transmitter to a local receiver, and an active cancellation circuit to generate a cancellation signal in response to combine and reduce said indicator (page 3 lines 5-28). **Claim 2:** the transmitter and receiver operate in the same band which is shared by others (page 14 lines 2-16). **Claims 3 and 4:** McGeehan discloses steps of remeasuring the indicator and further adjusting the control signal in a first or second direction based on the level of the measured indicator, which would be different from the last measured level. **Claim 11:** since the invention of McGeehan operates with other transceivers in the same frequency, said coupled signal could also be from said other transceiver. **Claim 12:** the circuit of McGeehan samples the transmitted signal (page 3 lines 5-20), in which case the circuit would be tuned to the same center frequency as that of the receiver.

Claim 19: McGeehan further discloses the use of bi-phase attenuators to attenuate the coupled signal indicator in a first path and a second quadrature path via

gain adjustments, and summing means (page 8 line 21-page 9 line 16, FIGS 7 and 9). **Claim 20:** McGeehan discloses a duplex system (page 1 lines 2-3). **Claims 21 and 23:** McGeehan discloses other radios, in which case the cancellation circuit may be tuned to a coupled signal from a second radio, since it does not distinguish the source of the coupled signal. **Claim 22:** the second radio would thus be a full duplex radio such as the one taught in the main embodiment of McGeehan.

Claims 24 and 25: are the inherent physical embodiments of method claim 1 above, and as such are rejected for the same reasons set forth above; note that McGeehan discloses a DSP which includes a machine readable medium and a state machine.

Claim Rejections - 35 USC 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGeehan as applied to claim 1 above.

While disclosing applicant's invention of claim 1 as shown above, McGeehan fails to disclose a plurality of step sizes and integration times and storing said data in a memory, however, such was notoriously well known in the art at the time of the invention, and as such the examiner takes Official Notice of such a feature, asserting

that it would have been obvious to one of ordinary skill in the art at the time of the invention to add steps and varying integration times and a memory to McGeehan, as it would allow faster operation, especially given that McGeehan discloses a DSP, which inherently comprises a memory for storing data during processing.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.3218 may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 2, 11, 12 and 19-25 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,539,204 (Marsh). Although the conflicting claims are not identical, they are not patentably distinct from each other because the method of Marsh uses a model of the coupled signal which would indicate the power level of the signal. Claims 2 and 11 of the instant invention corresponds to claim 14 of Marsh. Claim 12 of the instant invention corresponds to claim 9 of Marsh. Claim 1 of Marsh discloses the quadrature attenuation of claim 19 of the instant invention. Claims 20-23 of the instant invention corresponds to claim 5 of Marsh. Claims 24 and 25 of the instant invention corresponds to claim 1 of Marsh.

Allowable Subject Matter

Claims 5-9 and 13-17 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 5 teaches towards a method for reducing a coupled signal in a transceiver by measuring a coupled signal and using a cancellation circuit to reduce the coupled signal, wherein the signal is iteratively measured to continue to reduce the signal by changing the magnitude of the cancellation signal in a first or second direction, wherein the circuit locks after adjustment of the signal has switched directions at least twice. Claim 8 discloses that the step size of the adjustment may change to a different level

after the signal has locked at least once. Claim 9 discloses that the integration time of the adjustment may change to a different level after the signal has locked at least once.

Claim 6 teaches towards a method for reducing a coupled signal in a transceiver by measuring a coupled signal and using a cancellation circuit to reduce the coupled signal, wherein the signal is iteratively measured to continue to reduce the signal by changing the magnitude of the cancellation signal in a first or second direction, wherein the circuit may further adjust a second dimension control signal in the first or second direction based on a comparison between the present indication and a previous one, in addition to a first dimension control signal adjustment.

Claim 13 teaches towards a method for reducing a coupled signal in a transceiver by measuring a coupled signal and using a cancellation circuit to reduce the coupled signal, wherein the signal is iteratively measured to continue to reduce the signal by changing the magnitude of the cancellation signal in a first or second direction, wherein the circuit tunes only when the transmitter is in a local transmission-only mode, and when the receiver is not receiving. Claim 14 further recites that the signal operates at a particular level in such a case.

Response to Arguments

Applicant's arguments filed 3-9-04 have been fully considered but they are not persuasive.

Regarding McGeehan, the examiner upholds the rejection above under 35 USC 102(b). McGeehan discloses that the cancellation is in response to a sampled signal

from the output, see page 3 lines 5-20. While McGeehan discloses sampling the signal after cancellation, the first signal is used for cancellation purposes, and said first signal would represent the signal strength of the coupled signal as it is the transmission signal itself. As such, said sample is read as an indication of the signal strength of the coupled signal. And given that McGeehan's invention purports to use said samples to lower the coupled signal, it would thus lower the indication of signal strength of the coupled signal.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 for both formal and informal/draft communications, labeled as such.

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, sixth floor (receptionist).

Any inquiry concerning this or earlier communications from the examiner should be directed to examiner Charles Craver at (703) 305-3965.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vivian Chin, can be reached at (703) 308-6739.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist at (703) 305-4700.

CC

C.Craver

June 1, 2004

6-1-04

CHARLES CRAVER
PATENT EXAMINER